Overview of contract nursing staffing efficiency across states, counties, providers

This case study analyzes Payroll Based Journal (PBJ) data from the Centers for Medicaid and Medicare Services (CMS) to evaluate staffing patterns in U.S. nursing homes. The goal is to provide data-driven recommendations to XYZ's sales leadership team, focusing on optimizing contract nursing fulfilment across key facilities.

Tools used: MySQL, Excel, Tableau
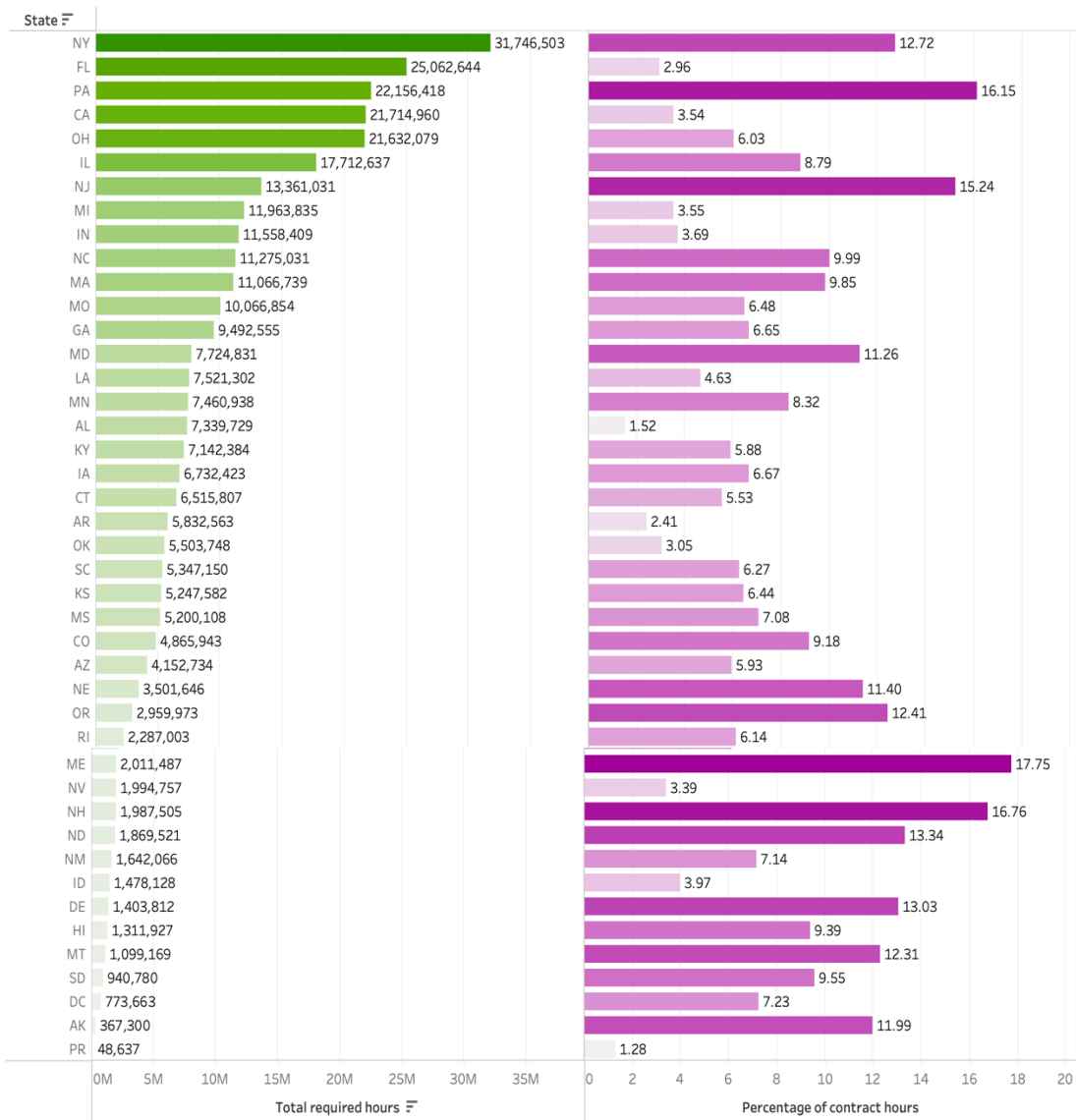
Link to Tableau interactive dashboard

1. Nursing staffing efficiency across states:

Two of the XYZ's core values (Efficiency and Growth) guide the exploration of the alignment between total nursing hours required by nursing home facilities and the percentage of contract hours fulfilled by XYZ across states.

- **Target high-demand, low-fulfilment states:** New York, Florida, and California have high demand for nursing hours but low contract fulfilment (12.72%, 2.96%, 3.54%). The sales team should explore these gaps and strategize to increase staffing in these markets.

- **Focus on below-average contract fulfilment:** With an average contract fulfilment of 8%, states below this threshold may have systemic barriers. Addressing these could help improve market efficiency.

- **Pitch testimonials from high-fulfilment states**: Maine, New Hampshire, and Pennsylvania have higher contract fulfilment. Use these states as case studies to showcase efficient staffing in sales pitches for new or underperforming regions.

This approach not only aligns with efficiency by improving operational coverage but also supports Growth by expanding service reach and strengthening XYZ's market position.

Total required hours vs % of contract hours by State

State	Total required hours	Percentage of contract hours
NY	31,746,503	12.72
FL	25,062,644	2.96
PA	22,156,418	16.15
CA	21,714,960	3.54
OH	21,632,079	6.03
IL	17,712,637	8.79
NJ	13,361,031	15.24
MI	11,963,835	3.55
IN	11,558,409	3.69
NC	11,275,031	9.99
MA	11,066,739	9.85
MO	10,066,854	6.48
GA	9,492,555	6.65
MD	7,724,831	11.26
LA	7,521,302	4.63
MN	7,460,938	8.32
AL	7,339,729	1.52
KY	7,142,384	5.88
IA	6,732,423	6.67
CT	6,515,807	5.53
AR	5,832,563	2.41
OK	5,503,748	3.05
SC	5,347,150	6.27
KS	5,247,582	6.44
MS	5,200,108	7.08
CO	4,865,943	9.18
AZ	4,152,734	5.93
NE	3,501,646	11.40
OR	2,959,973	12.41
RI	2,287,003	6.14
ME	2,011,487	17.75
NV	1,994,757	3.39
NH	1,987,505	16.76
ND	1,869,521	13.34
NM	1,642,066	7.14
ID	1,478,128	3.97
DE	1,403,812	13.03
HI	1,311,927	9.39
MT	1,099,169	12.31
SD	940,780	9.55
DC	773,663	7.23
AK	367,300	11.99
PR	48,637	1.28

2. County-level analysis of contract fulfilment in high demand states

Prioritize counties with high demand but low fulfilment: Los Angeles (CA) and Miami-Dade (FL) have high total hours required but low contract fulfilment percentages (2.82% and 2.69%). The sales team should target these counties to increase staffing, as there is a large gap between demand and fulfilled hours.

Capitalize on high fulfilment counties: Allegheny (PA) and York (PA) show high fulfilment rates (24.99% and 24.86%). These counties can serve as examples of how effective staffing meets large-scale demand, supporting sales efforts in other regions.

### % of contract hours in the top 5 counties from top 5 states

State	County Name	Total hours	% of contract hours
NY	Queens	3,400,730	19.46
	Kings	3,239,920	17.32
	Bronx	3,058,191	21.12
	Nassau	2,274,672	11.45
	New York	1,700,376	16.77
FL	Miami-Dade	2,532,412	2.69
	Pinellas	2,116,213	4.84
	Volusia	932,590	5.82
	Sarasota	913,401	5.62
	Pasco	669,464	6.07
PA	Montgomery	1,903,244	16.32
	Philadelphia	1,925,669	16.56
	Allegheny	1,824,463	24.99
	Lancaster	1,174,616	12.7
	York	566,221	24.86
CA	Los Angeles	8,327,908	2.82
	Santa Clara	1,098,367	5.11
	Alameda	947,024	5.14
	Contra Costa	637,380	10.01
	San Francisco	491,188	12.29
OH	Montgomery	1,108,734	6.25
	Cuyahoga	2,642,979	7.45
	Hamilton	1,809,794	5.37
	Summit	1,051,668	6.41
	Lorain	554,092	11.99

3. Addressing below-average contract hours across states

Prioritize states with potential: States such as Nebraska (24.5),Colorado (23.36), Rhode Island (21.13) show potential for improvement. Minor adjustments could move these states closer to or above the average contract hours.

Improve support in underperforming states: States like Puerto Rico (1.36), Alabama (5.5), and Oklahoma (6.69) are significantly below average. These states need deeper investigation into potential staffing challenges, such as shortages or inefficient processes, to improve contract hours.

States below average (25.00 contract hours)
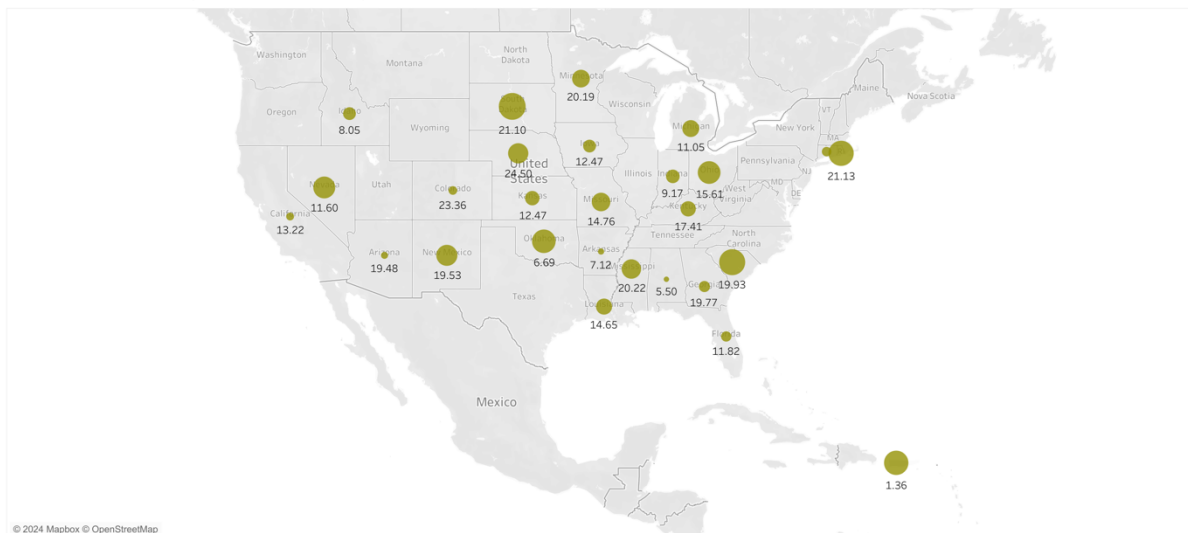
4. A Facility-Level Analysis of nursing home contract fulfilment

High-fulfilment facilities as case studies: Coral Reef Subacute Care Center (Miami-Dade, FL) stands out with full contract fulfilment. This facility can be used as a case study to demonstrate XYZ's effective staffing solutions.

Appreciation and rewards for loyalty: The sales team can think of providing packages deals as a reward in these nursing homes to show appreciation and gratitude.

Top 10 nursing homes with high contract hours

Nursing home providers	County	State	
NORTHAMPTON COUNTY-GRACEDALE	Northampton	PA	82,929
PLEASANT ACRES REHABILITATION AND NURSING CENTER	York	PA	75,879
ISABELLA GERIATRIC CENTER INC	New York	NY	75,367
QUEENS BOULEVARD EXTENDED CARE FACILITY	Queens	NY	70,247
BRIGHTON REHABILITATION AND WELLNESS CENTER	Beaver	PA	67,982
MICHIGAN VETERAN HOMES AT GRAND RAPIDS	Kent	MI	59,816
WORKMENS CIRCLE MULTICARE CENTER	Bronx	NY	56,834
CORAL REEF SUBACUTE CARE CENTER LLC	Miami-Dade	FL	55,284
WILLOW POINT REHABILITATION AND NURSING CENTER	Broome	NY	54,512
THE PLAZA REHAB AND NURSING CENTER	Bronx	NY	50,033

5. Evaluating Staffing Efficiency in High-Penalty Nursing Facilities

Prioritize high-fine facilities: Facilities like sterling manor (18.96%) and lake mariam health and rehabilitation center (12.20%) have the highest fine percentages. These should be targeted for outreach efforts to offer tailored staffing solutions.

Implement training and support programs: Offer compliance-focused training to facilities with high files to enhance performance and reduce errors.

Monitor and track performance: Regularly follow up with clients to assess the impact of staffing solutions on fine reduction and overall performance.

Providers who received the most % of penalties in Q1 2024

STERLING MANOR 18.96%	UNIVERSITY PLACE NURSING AND REHABILITATION CENTER 9.51%	SUMMER MEADOWS 9.20%	RIVER VIEW REHAB CENTER 8.88%
LAKE MARIAM HEALTH AND REHABILITATION CENTER 12.20%	ATLAS POST ACUTE AT WOODBURY COUNTRY CLUB 8.35%	PLEASANT BAY OF BREWSTER REHAB CENTER 7.34%	ROSE TRAIL NURSING AND REHABILITATION CENTER 7.24%
PINELLAS POINT NURSING AND REHAB CENTER 10.70%	CRESTWOOD CARE CENTER 7.62%		